

Software Engineering 2

CT5106

Assignment #4 – Persistence using JPA

- In this assignment, you will use the WebJpa¹ and the MyShop² examples as inspiration.
- Your task is to:
 1. Create a table or tables in a MySQL database. Choose something that you might sell online, such as 'book', 'boat', 'house', 'ticket',.... – any category from a site like donedeal.ie or adverts.ie might give you some inspiration.
 2. Connect to the database from NetBeans. Under the 'Services' tab, right click on Databases and select 'New Connection'. Make sure to select the MySQL driver option. Use the connection properties as explained in the lecture.
 3. Create the entity class. To do this, click on the Projects tab. Then select the menu option File -> New File -> Persistence -> Entity Classes from Database, and follow the instructions to create the entity class for your table.
 4. Then create the Façade class for your entity class. Select the option File -> New File -> Enterprise JavaBeans -> Session Beans for Entity Classes.
 5. Using the MyShop application as an inspiration, create JSP and servlet code to list the entities in the table, create new ones, edit the details of existing ones, and to delete.
 - a. You will need a servlet that uses JPA and the Façade class to retrieve a list of entities and attach them to the session as an attribute
 - b. The servlet forwards control to a JSP page where the entities are displayed in a table
 - c. After the table will be a button to create a new entity, which opens a JSP containing a form which submits to a servlet where the request parameters are used to create a new entity object. This object is then saved (persisted) using the Façade object.
 - d. Each row in the table will have button 'edit', which opens JSP page containing a form where the entity details (except the PK) can be edited. On submission of the form (put the entity PK as a hidden parameter), a servlet uses the PK to retrieve the entity using the Façade, and then changes the entity's property values and persists the changes using the Façade edit() method.
 - You should also include a 'delete' button on each row that will submit the PK to a servlet where the Façade remove() method is used to permanently delete the entity.
- After creating, editing, deleting entities, the list should be refreshed from the database, and control forwarded to the list display JSP again.

¹ In NetBeans select File-> New Project -> Samples -> Java EE -> 'Web JPA (Java EE 6)'

² See 'Online Shop Example' in folder 'Learning Materials' on Blackboard